I claim:

1. An electrical resistor, comprising:

a resistance zone;

connections;

electrically conductive power supply leads designed as bushars; and

an electrically insulating layer configured between said power supply leads;

said electrically insulating layer being a good thermal conductor;

said power supply leads connected to said connections;

said power supply leads running parallel to one another;

said power supply leads have ends remote from said resistance zone; and

said ends of said power supply leads being designed as connection contacts.

2. The electrical resistor according to claim 1, comprising:

another electrically insulating layer that is a good thermal conductor; and

a construction including said resistance zone and said power supply leads except for said connection contacts;

said other insulating layer surrounding said construction.

3. The electrical resistor according to claim 2, comprising:

a conductive layer that is a good electrical and thermal conductor;

said conductive layer surrounding said construction and said other insulating layer.

- 4. The electrical resistor according to claim 1, wherein said power supply leads are intermeshed in one another.
- 5. The electrical resistor according to claim 1, wherein said power supply leads are of coaxial design.
- 6. The electrical resistor according to claim 1, wherein said power supply leads are configured in a manner selected from

the group consisting of being stacked and being rolled up like a wound capacitor.

. 7. The electrical resistor according to claim 1, comprising:

a protective barrier made of a thermally nonconductive material;

said protective barrier configured between adjacent structural parts that produce heat or cold.